

## ABSTRACT

A method, an apparatus and a program for detecting similarity between two time-domain signals, at a high speed, and a recording medium on which is recorded such program. The process for detecting the similarity is split into a stage for calculating the similarity between feature vectors at each discrete time  $t$  and a stage for counting the number of similar vectors in the entire time series. In the calculating stage, the distances between the components for the same frame numbers of the feature vector time series  $g_t, f_t$  are hierarchically integrated. If the ultimate integrated value is lower than the distance threshold value  $S$ , the feature vector time series  $g_t, f_t$  are determined to be similar. If the integrated value exceeds the threshold value part way in the course of the hierarchical integration, the feature vector time series  $g_t, f_t$  are determined to be dissimilar and the integrating calculations for the remaining components are discontinued. In the counting stage, the number of the feature vectors  $f$  determined to be similar and the number  $D$  of the feature vectors  $f$  determined to be dissimilar are hierarchically counted with respect to each frame. If the ultimate number of dissimilar vectors  $D$  is smaller than the threshold value  $(T-U)$ , the feature vector time series  $g_t, f_t$  are determined to be similar. If the number of dissimilar vectors  $D$  exceeds the threshold value  $(T-U)$  part way in the integrating calculations, the feature vector time series  $g_t, f_t$  are determined to be dissimilar and the similarity calculations for the remaining frames are discontinued.